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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,129	01/26/2006	Sang Woon Suh	2950-0332PUS1	2627
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EXAMINER DAZENSKI, MARC A				
ART UNIT 2621		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/543,129

Applicant(s)

SUH ET AL.

Examiner

MARC DAZENSKI

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CIS-100)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 7-22-2005

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-5, 11, 25-26, 32-33, and 39-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims refer to a "reference speed," however this term is not defined in the specification. By using the term "reference speed," it is unclear whether Applicant is referring to the reference speed of a recording medium, a reproducing device, a broadcast apparatus, or some other unspecified reference.

There is also insufficient antecedent basis for "reference speed" in the claims listed above.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The

definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993.) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 8-13 and 29-35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 8 and 29 define a recording medium and a recording medium having a data structure, respectively, embodying functional descriptive material. However, the claim does not define a computer-readable medium or computer-readable memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). The scope of the presently claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 7-10, 12-24, 28-31, 35-38, and 42 are rejected under 35

U.S.C. 102(e) as being anticipated by Tozaki et al (US Patent 7,398,010), hereinafter referred to as Tozaki.

Regarding **claim 1**, Tozaki discloses an information recording medium, apparatus for recording the same and apparatus for reproducing the same. Further Tozaki discloses a recording apparatus that records control information, video information, and audio information onto an optical disc, which reads on the claimed, "a method of recording data on a recording medium," as exhibited in figure 8; the method comprising:

recording information R, which is raw material such as audio information, video information, etc. onto the DVD (1), which reads on the claimed, "recording a main data on the recording medium," as disclosed at column 16, lines 28-30; and,

recording physical format information (202) in a lead-in area of the optical disc, the physical format information (20) including lowest reading rate information, the lowest

reading rate information being set for each DVD on the basis of the compressing rate of the video information and the audio information recorded on the whole of the DVD (1) so as to reproduce the whole portion of one DVD (1) at a same linear velocity, which reads on the claimed, "recording playback speed information for the main data in a control area followed by a data area where the main data is recorded," as disclosed at column 14, lines 46-48 and exhibited in figures 5, 6, and 7.

Regarding **claim 2**, Tozaki discloses everything claimed as applied above (see claim 1). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 3**, Tozaki discloses everything claimed as applied above (see claim 2). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 7**, Tozaki discloses everything claimed as applied above (see claim 1). Further, Tozaki discloses a maximum reading rate of 10.08Mbps or any value there multiplied by $(1/2)^n$, where n is a natural number, which reads on the claimed, "wherein the playback speed information is recorded as a ratio of transfer rate of the main data to a standard transfer rate of a digital television broadcast stream," as disclosed at column 14, lines 41-59.

Regarding **claim 8**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 9**, Tozaki discloses everything claimed as applied above (see claim 8). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 10**, Tozaki discloses everything claimed as applied above (see claim 8). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 12**, Tozaki discloses everything claimed as applied above (see claim 8). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 7 above.

Regarding **claim 13**, Tozaki discloses everything claimed as applied above (see claim 8). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 7 above.

Regarding **claim 14**, Tozaki discloses an information recording medium, apparatus for recording the same and apparatus for reproducing the same. Further, Tozaki discloses reproducing the information from the DVD (1), on which the above described control information, video information and audio information are recorded, which reads on the claimed, "a method of reproducing a data recorded on a recording medium," as disclosed at column 18, lines 14-18; the method comprising:

using a tracking servo control and a focus servo control with respect to the objective lens of the optical pickup (80) so that the light beam B can be irradiated precisely onto the information track of the DVD (1), which reads on the claimed, "driving

the recording medium on which the main data is recorded," as disclosed at column 18, lines 48-54;

the lowest reading rate information inputted as one portion of the control signal Sc through the system buffer, which reads on the claimed, "obtaining playback speed information for the main data from the recording medium," as disclosed at column 21, lines 47-50; and,

the decoded video signal Svd outputted from the video decoder (88) as a final video signal Svp to be displayed to a display device such as a CRT device, which reads on the claimed, "reproducing the main data by referring to the playback speed information," as disclosed at column 20, lines 16-17.

Regarding **claim 15**, Tozaki discloses everything claimed as applied above (see claim 14). Further, Tozaki discloses an arbitrary linear velocity for reading the lead-in area LI may be employed, which reads on the claimed, "wherein the driving step drives the recording medium at a predetermined basic speed of the recording medium," as disclosed at column 22, lines 55-56.

Regarding **claim 16**, Tozaki discloses everything claimed as applied above (see claim 14). Further, Tozaki discloses equalizer (301) which reproduces at 1 time multiplication corresponding to the lowest reading rate information read from the DVD (1), which reads on the claimed, "wherein the driving step drives the recording medium for a data area at a maximum speed at which a reproducing apparatus can read out data from the data area," as disclosed at column 21, lines 56-67.

Regarding **claim 17**, Tozaki discloses everything claimed as applied above (see claim 14). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 18**, Tozaki discloses everything claimed as applied above (see claim 14). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 12 above.

Regarding **claim 19**, Tozaki discloses everything claimed as applied above (see claim 14). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 7 above.

Regarding **claim 20**, Tozaki discloses everything claimed as applied above (see claim 14). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 18 above.

Regarding **claim 21**, Tozaki discloses everything claimed as applied above (see claim 14). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 14 above.

Regarding **claim 22**, the limitations of the claim are rejected in view of the explanation set forth in claim 1 above.

Regarding **claim 23**, Tozaki discloses everything claimed as applied above (see claim 22). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 2 above.

Regarding **claim 24**, Tozaki discloses everything claimed as applied above (see claim 23). Further, Tozaki discloses physical format information (202) which includes

disk size, book type and version, disk structure, and recording density, which reads on the claimed, "wherein the control information table further includes a recording medium size and version information specifying the medium size and version number respectively, a medium structure information specifying the number of recorded layers and the type of the recorded layers, and a recording density information associated with recording density of the recording medium," as exhibited in figure 6.

Regarding **claim 28**, Tozaki discloses everything claimed as applied above (see claim 22). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 13 above.

Regarding **claim 29**, the limitations of the claim are rejected in view of the explanation set forth in claim 22 above.

Regarding **claim 30**, Tozaki discloses everything claimed as applied above (see claim 29). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 23 above.

Regarding **claim 31**, Tozaki discloses everything claimed as applied above (see claim 29). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 24 above.

Regarding **claim 35**, Tozaki discloses everything claimed as applied above (see claim 29). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 28 above.

Regarding **claim 36**, the limitations of the claim are rejected in view of the explanation set forth in claim 14 above.

Regarding **claim 37**, Tozaki discloses everything claimed as applied above (see claim 36). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 23 above.

Regarding **claim 38**, Tozaki discloses everything claimed as applied above (see claim 37). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 24 above.

Regarding **claim 42**, Tozaki discloses everything claimed as applied above (see claim 36). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 28 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5, 11, 25-26, 32-33, and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tozaki et al (US Patent 7,398,010), hereinafter referred to as Tozaki, in view of Mishima et al (US Patent 7,343,083), hereinafter referred to as Mishima.

Regarding **claim 4**, Tozaki discloses everything claimed as applied above (see claim 1). However, the combination fails to disclose wherein the playback speed represents 1.2 or 1.5 times of reference speed. The examiner maintains that it was well

known in the art to include wherein the playback speed represents 1.2 or 1.5 times of reference speed, as taught by Mishima.

In a similar field of endeavor, Mishima discloses a digital video signal record and playback device and method for selectively reproducing desired video information from an optical disk. Further, Mishima discloses the rate control of the variable rate is set, in the beginning, to discrete rate goals such as 1Mbits, 1.5Mbits, 2Mbits, 2.5Mbits, 3Mbits, or the like so that each of the rate information in all the GOP is recorded on a disc, which reads on the claimed, "include wherein the playback speed represents 1.2 or 1.5 times of reference speed," as disclosed at column 67, lines 31-34.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the information recording medium, apparatus for recording the same and apparatus for reproducing the same of Tozaki to include the rate control of the variable rate is set, in the beginning, to discrete rate goals such as 1Mbits, 1.5Mbits, 2Mbits, 2.5Mbits, 3Mbits, or the like so that each of the rate information in all the GOP is recorded on a disc, as taught by Mishima, for the purpose of facilitating trick-play playback modes.

Regarding **claim 5**, Tozaki discloses everything claimed as applied above (see claim 1). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 4 above.

Regarding **claim 11**, Tozaki discloses everything claimed as applied above (see claim 9). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 4 above.

Regarding **claim 25**, Tozaki discloses everything claimed as applied above (see claim 22). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 4 above.

Regarding **claim 26**, Tozaki discloses everything claimed as applied above (see claim 22). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 4 above.

Regarding **claim 32**, Tozaki discloses everything claimed as applied above (see claim 29). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 4 above.

Regarding **claim 33**, Tozaki discloses everything claimed as applied above (see claim 29). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 4 above.

Regarding **claim 39**, Tozaki discloses everything claimed as applied above (see claim 36). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 4 above.

Regarding **claim 40**, Tozaki discloses everything claimed as applied above (see claim 36). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 4 above.

Claims 6, 27, 34, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tozaki et al (US Patent 7,398,010), hereinafter referred to as Tozaki, in view of Kojima (US Patent 5,953,484), hereinafter referred to as Kojima.

Regarding **claim 6**, Tozaki discloses everything claimed as applied above (see claim 1). However, Tozaki fails to disclose wherein the playback speed information is determined such that the main data on the recording medium is reproduced at a transfer rate of 36 Mbps, 40Mbps or faster. The examiner maintains that it was well known in the art to include wherein the playback speed information is determined such that the main data on the recording medium is reproduced at a transfer rate of 36 Mbps, 40Mbps or faster, as taught by Kojima.

In a similar field of endeavor, Kojima discloses a video transmitting apparatus, video data receiving apparatus and video data transmitting and receiving system. Further, Kojima discloses the data storage device (204) reproduces and outputs the once recorded video data at a transmission rate of the satellite communication line, for example, 40Mbps, which reads on the claimed, "wherein the playback speed information is determined such that the main data on the recording medium is reproduced at a transfer rate of 36 Mbps, 40Mbps or faster," as disclosed at column 7, lines 44-47.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the information recording medium, apparatus for recording the same and apparatus for reproducing the same of Tozaki to include the data storage device (204) reproduces and outputs the once recorded video data at a transmission rate of the satellite communication line, for example, 40Mbps, as taught by Kojima, for the purpose of transmitting video data at a high quality.

Regarding **claim 27**, Tozaki discloses everything claimed as applied above (see claim 22). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 6 above.

Regarding **claim 34**, Tozaki discloses everything claimed as applied above (see claim 29). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 6 above.

Regarding **claim 41**, Tozaki discloses everything claimed as applied above (see claim 36). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 6 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC DAZENSKI whose telephone number is (571)270-5577. The examiner can normally be reached on M-F, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571)272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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